DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-029974
Date Inspected: 28-Aug-2013

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	Jesse Cayabyab, Bernie Docena			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☐ No	☑ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Quality Assurance Inspector (QA) Joe Adame arrived at the American Bridge/Fluor (ABF) JV job site between the times noted above in order to monitor ABF Quality Control activities and the in process work being performed by ABF production personnel. The following items were observed:

ESW Repair excavation
RWR-201308-003
ESW E-043, Location “Q”-Face A:
The QA Inspector was later present to observe ABF welder Donald Plumb (WID-0891) performing Shield Metal Arc Welding (SMAW) on the repair excavation on Electroslag Weld (ESW) “Q”, at face A. The locations and repair information are listed in Request for Weld Repair (RWR) 201308-003 from Ultrasonic Testing indications designated for repair. The repair locations were noted as:
Y= 3800mm~4300mm
L= 500mm
W= 80mm
D= 70mm
Prior to welding ABF Welder -0891 was observed preheating the weld to over for welding using the Miller ProHeat 35 with heat induction blankets. Mr. Docena and the QA Inspector observed that the preheat was below 300° Fahrenheit using a 300°F. and 350°F. temperature indicators. The QC Inspector instructed Mr. Plumb to bring the preheat to the required minimum preheat. The welder used a propylene torch to heat the surface of the 80mm thick side of the weld joint to a minimum of 350° F. The welder was later observed using 4.0mm diameter electrode (E7018-1 HR4) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3.

The welding process in use was the Shielded Metal Arc Welding process (SMAW). The welding parameters were verified by ABF QC Inspector Bernie Docena using a Fluke 337 current clampmeter. The QC Inspector performed welding parameters verifications at random intervals throughout the shift. The welding observed appeared to be in compliance with the WPS noted above.

ESW Repair excavation
ESW E-043, Location “Q”-Face B:
ABF-RFI-003457R00
RWR-201306-002
The QA Inspector was present to observe ABF welder Wai Kit Lai (WID-2953) performing Shield Metal Arc Welding (SMAW) on the repair excavation on Electroslag Weld (ESW) “Q”, at face B. The locations and repair information are listed in Request for Weld Repair (RWR) 201306-002 from Ultrasonic Testing & Magnetic particle testing indications designated for repair. The repair locations were noted as:
Y=5800mm~6150mm
L=350mm
W=50mm
D=31mm
Prior to welding, Mr. Lai was observed preheating the weld to over 350° Fahrenheit prior to welding using the Miller ProHeat 35 with heat induction blankets. The welder was using 4.0mm diameter electrode (E7018-1 HR4) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3. The welding process in use was the Shielded Metal Arc Welding process (SMAW). The welding parameters were verified by ABF QC Inspector Bernie Docena with a Fluke 337 current clampmeter and preheat was verified with temperature indicators. Mr. Docena performed welding parameters verifications at random intervals throughout the shift. The welding observed appeared to be in compliance with the WPS noted above.

NDT Inspection of Electroslag Welds (ESW)
RWR-201308-008
ESW S-042, Location “L”- Face A, B:
The QA Inspector observed ABF QC Inspector Jesse Cayabyab performed Ultrasonic Testing (UT) on Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as ESW “L” at face A, B. Mr. Cayabyab stated that he was instructed by ABF to perform pulse echo UT to document the depths and indications prior to repair (pre-repair verification). The areas will be reinspected after SMAW repairs. The original Y locations were indications identified with pitch/catch UT as rejectable or recordable and designated to be removed and repaired. Y Location was noted as – 3740mm and HAZ areas located 300mm above and below the prosed repair locations.
QC/QA did not observe any rejectable indications with pulse echo UT.
QC/QA observed three recordable indications with pulse echo UT.
The QA Inspector also performed UT of the above mentioned ESW location in accordance with the ABF approved supplemental procedure for confirmation and evaluation of planar defects. Tandem report for work performed on this date will be completed by QC Inspector Jesse Cayabyab and signed by both QA/QC parties. Items listed on tandem report reflect indications agreed upon by QA/QC. See TL-6027 for additional details on the items inspected on this date.

Summary of Conversations:

Only general conversations with ABF/JV QC NDT personnel relevant to work and testing performed during this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Adame,Joe	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer